

# PK4 LYRECO PERM MARKER C/TIP ASSTD COL

Lyreco Group (Lyreco France)

Chemwatch Hazard Alert Code: 3

Chemwatch: 4854-15  
Version No: 2.1.1.1  
Safety Data Sheet (Conforms to Regulations (EC) No 453/2010)

Issue Date: 04/22/2013  
Print Date: 02/19/2015  
Initial Date: Not Available  
S.REACH.GBR.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1. Product Identifier

Product name	PK4 LYRECO PERM MARKER C/TIP ASSTD COL
Synonyms	151205 PK4 Lyreco Perm Marker B/Tip Asstd Col
Proper shipping name	PAINT or PAINT RELATED MATERIAL
Other means of identification	Not Available
Index number	Not Applicable

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Permanent Marker. NOTE: Information on this SDS refers to ink used in pens and markers, however, it applies to these inks in bulk.
Uses advised against	Not Applicable

### 1.3. Details of the manufacturer/importer

Registered company name	Lyreco Group (Lyreco France)
Address	Rue du 19 Mars 1962 Marly 59770 France
Telephone	+33 3 27 23 64 00 (9a.m-5p.m. CET.)
Fax	Not Available
Website	Not Available
Email	Not Available

### 1.4. Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+33 3 27 23 64 00 (9a.m-5p.m. CET.)
Other emergency telephone numbers	Not Available

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**Considered a dangerous mixture according to Directive 1999/45/EC, Reg. (EC) No 1272/2008 (if applicable) and their amendments. Classified as Dangerous Goods for transport purposes.**

#### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	2	2
Toxicity	2	2
Body Contact	3	3
Reactivity	1	1
Chronic	2	2


0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

DSD classification	In case of mixtures, classification has been prepared by following DPD (Directive 1999/45/EC) and CLP Regulation (EC) No 1272/2008 regulations
DPD classification [1]	R67 Vapours may cause drowsiness and dizziness. R41 Risk of serious damage to eyes. R10 Flammable.
Legend:	1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Classification according to regulation (EC) No 1272/2008 [CLP] [1]	Flammable Liquid Category 3, Serious Eye Damage Category 1, STOT - SE (Narcosis) Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### 2.2. Label elements

Continued...

## PK4 LYRECO PERM MARKER C/TIP ASSTD COL

CLP label elements	
--------------------	---

SIGNAL WORD	<b>DANGER</b>
-------------	---------------

## Hazard statement(s)

H226	Flammable liquid and vapour
H318	Causes serious eye damage
H336	May cause drowsiness or dizziness

## Supplementary statement(s)

Not Applicable

## Precautionary statement(s) Prevention

P101	If medical advice is needed, have product container or label at hand.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
----------------	--

## Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
-----------	--

## Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
------	--

## 2.3. Other hazards

	Inhalation, skin contact and/or ingestion may produce health damage*.
	May produce discomfort of the respiratory system and skin*.
	Cumulative effects may result following exposure*.
	Limited evidence of a carcinogenic effect*.

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## 3.1. Substances

See 'Composition on ingredients' in Section 3.2

## 3.2. Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to directive 67/548/EEC [DSD]	Classification according to regulation (EC) No 1272/2008 [CLP]
1.107-98-2 2.203-539-1, 215-306-1, 216-455-5 3.603-064-00-3, 603-106-00-0 4.01-2119457435-35-XXXX	25-50	<a href="#">propylene glycol monomethyl ether - alpha isomer</a>	R10, R67, R61, R37/38, R41 [2]	Flam. Liq. 3, STOT SE 3, Flam. Liq. 3, Repr. 1B, STOT SE 3, Skin Irrit. 2, Eye Dam. 1; H226, H336, H360D ***, H335, H315, H318 [3]
1.71-23-8 2.200-746-9 3.603-003-00-0 4.01-2119486761-29-XXXX	25-50	<a href="#">n-propanol</a>	R11, R41, R67 [2]	Flam. Liq. 2, Eye Dam. 1, STOT SE 3; H225, H318, H336 [3]
	balance	ingredients, non-hazardous		

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I; 3. Classification drawn from EC Directive 1272/2008 - Annex VI  
4. Classification drawn from C&L

## SECTION 4 FIRST AID MEASURES

## 4.1. Description of first aid measures

General	<ul style="list-style-type: none"> <li>▶ If swallowed do <b>NOT</b> induce vomiting.</li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>
---------	--

Continued...

	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

#### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

To treat poisoning by the higher aliphatic alcohols (up to C7):

- ▶ Gastric lavage with copious amounts of water.
- ▶ It may be beneficial to instill 60 ml of mineral oil into the stomach.
- ▶ Oxygen and artificial respiration as needed.
- ▶ Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.
- ▶ To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.
- ▶ Haemodialysis if coma is deep and persistent. [GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5]

##### BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Anticipate and treat, where necessary, for seizures.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Give activated charcoal.

##### ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

##### EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.

- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Acidosis may respond to hyperventilation and bicarbonate therapy.
- ▶ Haemodialysis might be considered in patients with severe intoxication.
- ▶ Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.

Symptomatic and supportive therapy is advised in managing patients.

## SECTION 5 FIREFIGHTING MEASURES

### 5.1. Extinguishing media

- ▶ Alcohol stable foam.

### 5.2. Special hazards arising from the substrate or mixture

- |                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

### 5.3. Advice for firefighters

- |                      |   |
|----------------------|---|
| <b>Fire Fighting</b> | ▶ Alert Fire Brigade and tell them location and nature of hazard. |
|----------------------|---|

- |                              |                                    |
|------------------------------|------------------------------------|
| <b>Fire/Explosion Hazard</b> | ▶ Liquid and vapour are flammable. |
|------------------------------|------------------------------------|

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

	See section 8
--	---------------

### 6.2. Environmental precautions

	See section 12
--	----------------

### 6.3. Methods and material for containment and cleaning up

- |                     |                                |
|---------------------|--------------------------------|
| <b>Minor Spills</b> | ▶ Remove all ignition sources. |
|---------------------|--------------------------------|

- |                     |  |
|---------------------|--|
| <b>Major Spills</b> | ▶ Clear area of personnel and move upwind. |
|---------------------|--|

### 6.4. Reference to other sections

	Personal Protective Equipment advice is contained in Section 8 of the MSDS.
--	---

## SECTION 7 HANDLING AND STORAGE

### 7.1. Precautions for safe handling

- |                      |  |
|----------------------|--|
| <b>Safe handling</b> | ▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b><br>▶ Avoid all personal contact, including inhalation. |
|----------------------|--|

- |                                      |               |
|--------------------------------------|---------------|
| <b>Fire and explosion protection</b> | See section 5 |
|--------------------------------------|---------------|

- |                          |   |
|--------------------------|---|
| <b>Other information</b> | ▶ Store in original containers in approved flammable liquid storage area. |
|--------------------------|---|

### 7.2. Conditions for safe storage, including any incompatibilities

- |                           |  |
|---------------------------|--|
| <b>Suitable container</b> | ▶ Packing as supplied by manufacturer. |
|---------------------------|--|

- |                                |   |
|--------------------------------|---|
| <b>Storage incompatibility</b> | Alcohols<br>▶ are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents. |
|--------------------------------|---|

#### PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control parameters

#### DERIVED NO EFFECT LEVEL (DNEL)

Not Available

#### PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropan-2-ol	375 mg/m3 / 100 ppm	560 mg/m3 / 150 ppm	Not Available	Sk

Continued...

## PK4 LYRECO PERM MARKER C/TIP ASSTD COL


European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropanol-2	375 mg/m3 / 100 ppm	568 mg/m3 / 150 ppm	Not Available	Skin
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	propylene glycol monomethyl ether - alpha isomer	1-Methoxypropan-2-ol	375 mg/m3 / 100 ppm	568 mg/m3 / 150 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	n-propanol	Propan-1-ol	500 mg/m3 / 200 ppm	625 mg/m3 / 250 ppm	Not Available	Sk

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether; (Ucar Triol HG-170)	150 ppm	150 ppm	470 ppm
n-propanol	Propyl alcohol, n-; (n-Propanol)	250 ppm	250 ppm	4000 ppm

Ingredient	Original IDLH	Revised IDLH
propylene glycol monomethyl ether - alpha isomer	Not Available	Not Available
n-propanol	4,000 ppm	800 ppm

## 8.2. Exposure controls

<b>8.2.1. Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
<b>8.2.2. Personal protection</b>	
<b>Eye and face protection</b>	▶ Safety glasses with side shields.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	▶ Wear chemical protective gloves, e.g. PVC.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	▶ Overalls.
<b>Thermal hazards</b>	Not Available

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

PK4 LYRECO PERM MARKER C/TIP ASSTD COL

Material	CPI
NEOPRENE	A
NITRILE	B
PVC	B

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Type A Filter of sufficient capacity.

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 5 x ES	A-AUS / Class 1	-	A-PAPR-AUS / Class 1
up to 25 x ES	Air-line*	A-2	A-PAPR-2
up to 50 x ES	-	A-3	-
50+ x ES	-	Air-line**	-

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Green flammable liquid with a characteristic odour; does not mix with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.83
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available

Continued...

## PK4 LYRECO PERM MARKER C/TIP ASSTD COL

<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	287
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	4
<b>Initial boiling point and boiling range (°C)</b>	96	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	23	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Flammable.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	13.5	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	2.1	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	1.9 @ 20C	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution(1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## 9.2. Other information

	Not Available
--	---------------

## SECTION 10 STABILITY AND REACTIVITY

<b>10.1.Reactivity</b>	See section 7.2
<b>10.2.Chemical stability</b>	► Presence of elevated temperatures.
<b>10.3. Possibility of hazardous reactions</b>	See section 7.2
<b>10.4. Conditions to avoid</b>	See section 7.2
<b>10.5. Incompatible materials</b>	See section 7.2
<b>10.6. Hazardous decomposition products</b>	See section 5.3

## SECTION 11 TOXICOLOGICAL INFORMATION

## 11.1. Information on toxicological effects

<b>Inhaled</b>	Inhalation of vapours may cause drowsiness and dizziness.
<b>Ingestion</b>	Overexposure to non-ring alcohols causes nervous system symptoms.
<b>Skin Contact</b>	Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.
<b>Eye</b>	If applied to the eyes, this material causes severe eye damage.
<b>Chronic</b>	There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

<b>PK4 LYRECO PERM MARKER C/TIP ASSTD COL</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>propylene glycol monomethyl ether - alpha isomer</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit) 230 mg mild
	Inhalation (rat) LC50: 10000 ppm/5 h.d <sup>[2]</sup>	Eye (rabbit) 500 mg/24 h.
	Oral (rat) LD50: 5207.2 mg/kg <sup>[1]</sup>	Eye (rabbit): 100 mg SEVERE Skin (rabbit) 500 mg open - mild
<b>n-propanol</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 4032 mg/kg <sup>[1]</sup>	Eye (rabbit): 20 mg/24h moderate
	Oral (rat) LD50: 1870 mg/kg <sup>[2]</sup>	Eye (rabbit): 4 mg open SEVERE Skin (rabbit): 20 mg/24h moderate
		Skin (rabbit): 500 mg open mild
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's msds unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>PK4 LYRECO PERM MARKER C/TIP ASSTD COL</b>	No significant acute toxicological data identified in literature search.
<b>PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER</b>	for propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether

PK4 LYRECO PERM MARKER C/TIP ASSTD COL

	acetate (DPMA); tripropylene glycol methyl ether (TPM). NOTE: For PGE - mixed isomers: Exposure of pregnant rats and rabbits to the substance did not give rise to teratogenic effects at concentrations up to 3000 ppm.
<b>N-PROPANOL</b>	The material may produce severe irritation to the eye causing pronounced inflammation.

<b>Acute Toxicity</b>	☹	<b>Carcinogenicity</b>	☹
<b>Skin Irritation/Corrosion</b>	☹	<b>Reproductivity</b>	☹
<b>Serious Eye Damage/Irritation</b>	✔	<b>STOT - Single Exposure</b>	✔
<b>Respiratory or Skin sensitisation</b>	☹	<b>STOT - Repeated Exposure</b>	☹
<b>Mutagenicity</b>	☹	<b>Aspiration Hazard</b>	☹

Legend: ✔ – Data required to make classification available  
✘ – Data available but does not fill the criteria for classification  
☹ – Data Not Available to make classification

CMR STATUS

<b>SKIN</b>	propylene glycol monomethyl ether - alpha isomer	European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) - Skin	Skin
-------------	--	---	------

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
propylene glycol monomethyl ether - alpha isomer	LOW (Half-life = 56 days)	LOW (Half-life = 1.7 days)
n-propanol	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
propylene glycol monomethyl ether - alpha isomer	LOW (BCF = 2)
n-propanol	LOW (LogKOW = 0.25)

12.4. Mobility in soil

Ingredient	Mobility
propylene glycol monomethyl ether - alpha isomer	HIGH (KOC = 1)
n-propanol	HIGH (KOC = 1.325)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT and vPvB Criteria fulfilled?	Not Available	Not Available	Not Available

12.6. Other adverse effects

No data available

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

<b>Product / Packaging disposal</b>	▶ Recycle wherever possible or consult manufacturer for recycling options.
<b>Waste treatment options</b>	Not Available
<b>Sewage disposal options</b>	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	•3Y

**Land transport (ADR)**

14.1. UN number	1263
14.2. Packing group	III
14.3. UN proper shipping name	PAINT or PAINT RELATED MATERIAL
14.4. Environmental hazard	No relevant data
14.5. Transport hazard class(es)	Class : 3 Subrisk : Not Applicable
14.6. Special precautions for user	Special provisions : 163 640E 650 Limited quantity : 5 L

**Air transport (ICAO-IATA / DGR)**

14.1. UN number	1263
14.2. Packing group	III
14.3. UN proper shipping name	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds)
14.4. Environmental hazard	No relevant data
14.5. Transport hazard class(es)	ICAO/IATA Class : 3 ICAO / IATA Subrisk : Not Applicable ERG Code : 3L
14.6. Special precautions for user	Special provisions : A3 A72 A192 Cargo Only Packing Instructions : 366 Cargo Only Maximum Qty / Pack : 220 L Passenger and Cargo Packing Instructions : 355 Passenger and Cargo Maximum Qty / Pack : 60 L Passenger and Cargo Limited Quantity Packing Instructions : Y344 Passenger and Cargo Limited Maximum Qty / Pack : 10 L

**Sea transport (IMDG-Code / GGVSee)**

14.1. UN number	1263
14.2. Packing group	III
14.3. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
14.4. Environmental hazard	Not Applicable
14.5. Transport hazard class(es)	IMDG Class : 3 IMDG Subrisk : Not Applicable
14.6. Special precautions for user	EMS Number : F-E , S-E Special provisions : 163 223 955 Limited Quantities : 5 L

**Inland waterways transport (ADN)**

14.1. UN number	1263
14.2. Packing group	III
14.3. UN proper shipping name	PAINT or PAINT RELATED MATERIAL
14.4. Environmental hazard	No relevant data
14.5. Transport hazard class(es)	3 : Not Applicable



## PK4 LYRECO PERM MARKER C/TIP ASSTD COL

<b>14.6. Special precautions for user</b>	Classification code	F1
	Limited quantity	5 L
	Equipment required	PP, EX, A
	Fire cones number	0

## Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	propylene glycol monomethyl ether - alpha isomer	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	n-propanol	Y

## SECTION 15 REGULATORY INFORMATION

## 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

<b>propylene glycol monomethyl ether - alpha isomer(107-98-2) is found on the following regulatory lists</b>	"EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Slovak)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Lithuanian)", "European Customs Inventory of Chemical Substances ECICS (English)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Polish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (French)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Slovenian)", "EU REACH Regulation (EC) No 1907/2006 - Annex XVII (Appendix 6) Toxic to reproduction: category 1B (Table 3.1)/category 2 (Table 3.2)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Swedish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Italian)", "European Trade Union Confederation (ETUC) Priority List for REACH Authorisation", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Danish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Maltese)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances (updated by ATP: 31) - Reprotoxic Substances", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Latvian)", "UK Workplace Exposure Limits (WELs)", "EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (German)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Spanish)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Finnish)", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Greek)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Portuguese)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Hungarian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Romanian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Czech)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Bulgarian)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Dutch)", "Europe AeroSpace and Defence Industries Association of Europe (ASD) REACH Implementation Working Group Priority Declarable Substances List (PDSL)", "European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Estonian)"
<b>n-propanol(71-23-8) is found on the following regulatory lists</b>	"European Customs Inventory of Chemical Substances ECICS (English)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "UK Workplace Exposure Limits (WELs)", "EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31"

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 67/548/EEC, 1999/45/EC, 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Regulation (EU) No 453/2010, Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008 and their amendments as well as the following British legislation: - The Control of Substances Hazardous to Health Regulations (COSHH) 2002 - COSHH Essentials - The Management of Health and Safety at Work Regulations 1999

## 15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

## ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
propylene glycol monomethyl ether - alpha isomer	107-98-2	603-064-00-3, 603-106-00-0	01-2119457435-35-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, STOT SE 3, Skin Irrit. 2, Eye Dam. 1, Repr. 1B	GHS07, GHS02, Wng, GHS05, GHS08, Dgr	H226, H336, H315, H318, H335, H360
2	Flam. Liq. 3, STOT SE 3, STOT RE 2, Repr. 1B, Acute Tox. 4, Eye Irrit. 2, Flam. Liq. 2, Skin Irrit. 2, Eye Dam. 1	GHS02, Wng, GHS08, Dgr, GHS03, GHS05	H371, H360, H225, H226, H315, H318, H370

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
n-propanol	71-23-8	603-003-00-0	01-2119486761-29-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2, Eye Dam. 1, STOT SE 3	GHS02, GHS05, Dgr	H225, H318, H336

2	Flam. Liq. 2, Eye Dam. 1, STOT SE 3, Acute Tox. 4	GHS02, GHS05, Dgr, GHS08	H225, H318, H336, H302
---	---	--------------------------	------------------------

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

## SECTION 16 OTHER INFORMATION

### Full text Risk and Hazard codes

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H315	Causes skin irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H360D ***	May damage the unborn child.
H370	Causes damage to organs
H371	May cause damage to organs
R11	Highly flammable.
R37/38	Irritating to respiratory system and skin.
R61	May cause harm to the unborn child.

### Other information

#### DSD / DPD label elements



Relevant risk statements are found in section 2.1

Indication(s) of danger	Xi
-------------------------	----

#### SAFETY ADVICE

S02	Keep out of reach of children.
S23	Do not breathe gas/fumes/vapour/spray.
S25	Avoid contact with eyes.
S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S39	Wear eye/face protection.
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S46	If swallowed, seek medical advice immediately and show this container or label.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.